



**PATENT**  
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**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

APPLICANT : WRIGHT ET AL.  
SERIAL NO. : 10/823,195  
FILED : DECEMBER 4, 2004  
TITLE : CONNECTION BETWEEN A WALL AND A PIPE  
EXAMINER : LAN NGUYEN  
GROUP ART UNIT : 3683

**DECLARATION UNDER C.F.R. 1.132**

Honorable Commissioner for Patents and Trademarks  
P.O. BOX 1450  
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**DECLARATION IN SUPPORT OF PATENTABILITY**

I, James THOMPSON, a British subject of 70 Wangford Road, Reydon, Southwold, Suffolk, IP18 6NX, United Kingdom, declare:-

1. I was the Principle Petroleum Inspector for the London Fire Brigade, a position I held for 38 years. I took early retirement in 1999 and I am now an independent consultant in this field. I am presently chairman of the Technical Committee of the Association for Petroleum and Explosives Administration (APEA). The APEA is a UK based organisation, drawing membership from all quarters of the petroleum industry, including Regulators from National and Local Government Authorities, Oil Companies, Equipment Manufacturers and Suppliers, Service and Installation Organisations, Training Establishments and many others. It is seen to be unique in representing all sides of the industry and in providing a forum for debate and the generation of technical guidance.

The APEA was founded 40 years ago and their objectives are:

- The advancement of scientific and technical knowledge
- The supply and interchange of information
- Uniformity of standards interpretation and application

I am also Chairman of the European Committee for standards for Petrol Station Forecourt Equipment, CEN/TC 221. The European Committee for Standardization, CEN, was founded in 1961 by the national standards bodies in the European Economic Community and EFTA countries.

Now CEN is contributing to the objectives of the European Union and European Economic Area with voluntary technical standards which promote free trade, the safety of workers and consumers, interoperability of networks, environmental protection, exploitation of research and development programmes, and public procurement. CEN is a non-profit making technical organization set up under Belgian law.

I make this declaration from my own personal knowledge.

2. I have seen the latest Office Action from the USPTO and I have seen copies of the claims currently under examination as well as the cited prior art that the Examiner is relying on, namely US5,295,760 (Rowe), US4,894,521 (Evans) and US5,655,564 (Gavin). I do not agree with the comments and arguments made by the Examiner in his rejection of the claims.
3. The downstream petroleum industry have been using polyethylene piping systems underground since the early 1980's when the system was first used on gasoline refuelling stations replacing corroded and leaking steel pipe. As the systems were more generally used across the industry in the 1990's the use of fusion-welded joints for joining the pipe became commonplace.

4. A major problem in the industry is the making of tank chambers and underground sumps, situated under the fuelling dispensers, water and fuel tight. A weak point was the joint through the walls through which passed the pipe work, or conduit. Prior to this invention the main solution to this had been mechanical joints with bolts, clamps glue etc. The effectiveness of these joints tends to be very reliant on the skill of the installer for their initial performance but this type of joint generally proved to fail over time in areas of high water table or with fuel spilt in sumps and chambers. I have inspected many thousands of installations over 40 years, not only in the UK but also over the world and water in chambers and fuel escaping via these joints has caused many problems over the years. The pollution of groundwater, rivers and indeed the safety implications for gasoline escaping from the system is well documented and the security of these systems is paramount.
5. No one has used a fusion welding system for an entry fitting for use in the petroleum industry to my knowledge prior to PetroTechnik. The argument that someone skilled in this art would use the Gavin system or the Rowe system as a starting point for a new design of entry fitting is simply incorrect. It suggests a lack of understanding of the design requirements and the prejudices in this particular industry at that time.
6. Taking Gavin first, the Gavin system was designed for the wastewater industry and as a manifold as illustrated in Gavin's Figure 6. In contrast, the PetroTechnik product is designed to allow pipes to pass through chambers and sumps ensuring a fuel and watertight seal on entry and on exit from the chamber. While in detail the joint shown in Gavin system may be suitable for a water industry application, it would not in my opinion be suitable for the petroleum industry mainly due to:-

6.1 The method of sealing between the pipe and the entry fitting;

- 6.2 The depth of some of the chambers may be up to 2m deep in petroleum industry applications;
- 6.3 I doubt that the small surface area of attachment between the fitting and the chamber/sump wall would prove fuel resistant for the lifetime of the installation.
7. There are a number of design and material specific requirements to ensure that petroleum fuel is kept out of the ground and indeed water from getting into the fuelling system. It is a major concern for both the operators of refuelling stations and the regulators. The Gavin system has a major drawback with the design of the fitting-to-pipe seal. This seal might be acceptable in the water industry for keeping wastewater from escaping, but would be completely ineffective in the petroleum industry for either keeping spilt fuel inside the chamber/sump or for keeping ground water from entering the chamber/sump. All such installations in the petroleum industry must be vacuum tested or pressure tested. The fittings of Gavin would never pass either test.
8. The seal in Gavin, as well as being a totally unsuitable and ineffective design, is located internal to the fitting. Thus it is not available for visual inspection on a regular basis as is required by Regulation.
9. Furthermore, the extent of the flange in the Gavin system appears inadequate to form a stable, durable, long lasting seal in a petroleum installation. In contrast, the fitting used by PetroTechnik is a substantial fitting that attaches to the chamber/sumps with a larger surface area providing an excellent seal. The use of automatic foolproof welding systems ensures that operator error is removed and the seal is sound.
10. With regards to Rowe, this design recognises some of the drawbacks of the gasket-type fitting, but seeks to solve those problems in an entirely different way to PetroTechnik. Rowe accepts that these fittings leak over time and simply tries to

prevent the inevitable leak from entering or leaving the chamber by adding a further seal over an already defective arrangement.

11. In Rowe, the penetration through the chamber wall is reinforced by flange plates on each side of the chamber wall, bolted together through the chamber wall. Rowe has not appreciated, as no one had before Boudry et al. came up with their invention, that by electrofusing a sleeved flange to the chamber wall, the resultant construction is stronger than the original, unperforated wall.
12. Thus, Rowe is both a totally unsuitable starting point if one was seeking to devise a new entry fitting and if anything, directs away from the present invention.
13. Furthermore, the Examiner's reliance on column 8, lines 18 to 34 of Rowe is believed to be misplaced. Rowe at column 8, lines 22 to 24 states that "many minor changes in the specific structures described may clearly be made *without departing from the scope of the invention*". The replacement of a gasket type fitting with an electrofusion gasketless fitting, contrary to the whole teaching of Rowe cannot in my view be what Rowe had in mind as a "minor" change. Rowe has already ruled out welding the entrance fitting to the chamber wall at column 2, lines 52 to 55. A change to an electrofusion fitting is therefore not only ruled out by Rowe but would require every single feature of Rowe's invention to be discarded or redesigned. Such a suggestion is therefore, in my view, untenable.
14. Rowe also states at column 8, lines 28 to 33 that [he] anticipate[s] many structural arrangements [which] are considered to fall within the true scope of my invention". This still affords no teaching of what "alternative means and variations to his method" would be "well known in the art" as suggested by the Examiner. Certainly there is no teaching

in Rowe towards the present invention because as stated above, Rowe teaches away from PetroTechnik's invention.

15. While Rowe relates to a bulkhead for fuel storage (column 1, lines 15 to 19). Gavin and Carlesimo both relate to different non-analogous fields of invention from that of Rowe and, more importantly, that of the present invention. Gavin refers to septic tank systems (column 1, lines 9 to 14) and Carlesimo relates to an underground sewer installation (Abstract lines 3 to 4). One skilled in the petroleum industry would not look to the waste water or sewer field for insight, as both of these disparate fields must address different problems and different specific requirements with different solutions.

I, James Thompson, declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true; and further that these statements were made with the knowledge that wilful, false statements and the like so made are punishable by fine or imprisonment, or both, under Section 1001 of Title 18 of the United States Code and that such wilful, false statements may jeopardize the validity of this application or any patent resulting therefrom.

Signed: ..... Date: ..... 2007

JAMES THOMPSON